

EROSION CONTROL NOTES

1. IN CASE EMERGENCY WORK IS REQUIRED, CONTACT RICHARD CAVANAUGH AT NEWPORT PACIFIC PHONE (858) 756-3771.
2. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ON SITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS EMINENT.
3. DEVICES SHOWN ON PLANS SHALL NOT BE MOVED OR MODIFIED WITHOUT THE APPROVAL OF RESPONSIBLE PERSONNEL FOR THE SWPPP.
4. THE CONTRACTOR SHALL RESTORE ALL EROSION CONTROL DEVICES TO WORKING ORDER AFTER EACH RUN-OFF PRODUCING RAINFALL.
5. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL MEASURES AS MAY BE REQUIRED DUE TO UNCOMPLETED GRADING OPERATIONS OR UNFORESEEN CIRCUMSTANCES WHICH MAY ARISE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.
7. ALL EROSION CONTROL MEASURES PROVIDED PER THE APPROVED GRADING PLAN SHALL BE INCORPORATED HEREON.
8. GRADED AREAS AROUND THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
9. ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE FIVE (5) DAY RAIN PROBABILITY FORECAST EXCEEDS FORTY PERCENT (40%). SILT AND OTHER DEBRIS SHALL BE REMOVED AFTER EACH RAINFALL.
10. ALL GRAVEL BAGS SHALL BE BURLAP TYPE WITH 3/4 INCH MINIMUM AGGREGATE.
11. DISTURBED SOIL AREAS THAT ARE FLAT AND LESS THAN 5% SLOPE, MAY HAVE TRACKING, MULCH, WOOD CHIPS, HYDROSEEDING WITHOUT WATERING, JUTE MATTING OR JUTE NETTING AS A MEANS TO PROTECT EXPOSED SLOPES FROM EROSION.

BONDED FIBER MATRIX

BONDED FIBER MATRIX SHALL BE APPLIED TO ALL FINISHED SLOPES IMMEDIATELY UPON COMPLETION PER THE FOLLOWING:

1. APPLICATION RATES SHALL BE 3500 POUNDS PER ACRE MINIMUM FOR 2:1 OR SHALLOWER SLOPES AND 4000 POUNDS PER ACRE FOR SLOPES STEEPER THAN 2:1.
2. BFM SHALL BE APPLIED AT LEAST 24 HOURS BEFORE OR AFTER RAINFALL.
3. THE SITE MUST BE PROTECTED WITH BROW DITCHES AND/OR DIVERSION BERMS AT THE TOP OF SLOPES TO DIVERT FLOW FROM FACE OF THE SLOPE.
4. BFM SHALL BE APPLIED TO PROVIDE 100% COVERAGE (I.E. APPLICATION FROM MULTIPLE ANGLES).
5. FOR PERMANENT EROSION CONTROL PURPOSES, BFM MUST BE INSTALLED IN CONJUNCTION WITH SEED EROSION CONTROL VEGETATION.
6. A LETTER FROM THE HYDROSEED CONTRACTOR CERTIFYING THAT THE BFM HAS BEEN INSTALLED IN ACCORDANCE WITH THE APPROVED APPLICATION RATES AND COVERAGE REQUIREMENTS SHALL BE SUBMITTED TO THE COUNTY INSPECTOR FOR APPROVAL.

SOIL STABILIZATION FOR 5% AND FLATTER

FLAT AREAS OF LESS THAN 5%(LIKE BUILDING PADS, PARKING AREAS, LEACH FIELDS) SHALL HAVE 100% PROTECTION USING GEOTEXTILES, MATS (SS-7 OR ESC20), OR OTHER MATERIAL APPROVED BY THE COUNTY FOR STABILIZING SLOPES, OR USING MULCH/WOOD CHIPS (SS-3, SS-6, SS-8), OR JUTE MATTING (SS-7). THE COUNTY MAY REDUCE THIS REQUIREMENT FOR FLAT AREAS, PROVIDED FULL SEDIMENT CONTROL IS PROVIDED THROUGH CONSTRUCTED AND MAINTAINED DESILTATION BASINS (SC-2) AT ALL PROJECT DISCHARGE POINTS.

AREAS OF GRADED PADS THAT HAVE ACTIVE STRUCTURE CONSTRUCTION UNDERWAY MAY BE PROTECTED BY ROLLED PLASTIC AS PART OF A WEATHER-TRIGGERED ACTION PLAN UNTIL THE STRUCTURE'S ROOF HAS BEEN COMPLETED. THE REMAINDER OF THE PAD AREAS MUST CONTINUE TO BE PROTECTED USING EROSION CONTROL MEASURES AS IDENTIFIED ON THIS PLAN SET.

EMERGENCY EROSION CONTROL MEASURES NOTES

EMERGENCY EROSION CONTROL MEASURES NOTES:

1. ALL BUILDING PADS TO BE DIKED AND THE DIKES MAINTAINED TO PREVENT WATER FROM FLOWING FROM THE PAD UNTIL THE STREETS AND DRIVEWAYS ARE PAVED AND WATER CAN FLOW FROM THE PADS WITHOUT CAUSING EROSION, OR CONSTRUCT DRAINAGE FACILITIES TO THE SATISFACTION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS THAT WILL ALLOW WATER TO DRAIN FROM THE PAD WITHOUT CAUSING EROSION.
2. TOPS OF ALL SLOPES TO BE DIKED OR TRENCHED TO PREVENT WATER FROM FLOWING OVER THE CREST OF SLOPES.
3. MANUFACTURED SLOPES AND PADS SHALL BE ROUNDED VERTICALLY & HORIZONTALLY AS APPROPRIATE TO BLEND WITH THE SURROUNDING TOPOGRAPHY.
4. AS SOON AS CUTS OR EMBANKMENTS ARE COMPLETED, BUT NOT LATER THAN OCTOBER 1 ALL CUT AND FILL SLOPES SHALL BE STABILIZED WITH A HYDROMULCH MIXTURE OR AN EQUAL TREATMENT APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. BETWEEN OCTOBER 1 AND APRIL 10, APPROVED SLOPE PROTECTION MEASURES SHALL PROCEED IMMEDIATELY BEHIND THE EXPOSURE OF CUT SLOPES AND/OR THE CREATION OF EMBANKMENT SLOPES.
5. CATCH BASINS, DESILTING BASINS AND STORM DRAIN SYSTEM SHALL BE INSTALLED TO THE SATISFACTION OF THE COUNTY DEPARTMENT OF PUBLIC WORKS.
6. GRAVEL BAG CHECK DAMS TO BE PLACED IN A MANNER APPROVED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS IN UNPAVED STREETS WITH GRADIENTS IN EXCESS OF 2% AND ON OR IN OTHER GRADED OR EXCAVATED AREAS AS REQUIRED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.
7. THE DEVELOPER TO MAINTAIN THE PLANTING AND EROSION CONTROL MEASURES DESCRIBED ABOVE UNTIL RELIEVED OF SAME BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER TO REMOVE ALL SOIL INTERCEPTED BY THE GRAVEL BAGS, CATCH BASINS AND DESILTING BASINS AND KEEP THESE FACILITIES CLEAN AND FREE OF SILT AND SAND AS DIRECTED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS. THE DEVELOPER SHALL REPAIR ANY ERODED SLOPES AS DIRECTED BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.

SILTATION AND SEDIMENT CONTROL MEASURES NOTES:

1. THE SEDIMENT BASINS SHALL BE PROVIDED AT THE LOWER END OF EVERY DRAINAGE AREA PRODUCING SEDIMENT RUNOFF. THE BASINS SHALL BE MAINTAINED AND CLEANED TO DESIGN CONTOURS AFTER EVERY RUNOFF PRODUCING STORM. THE BASINS SHOULD BE SEMI-PERMANENT STRUCTURES THAT WOULD REMAIN UNTIL SOIL STABILIZING VEGETATION HAS BECOME WELL ESTABLISHED ON ALL ERODIBLE SLOPES.
2. SEDIMENTATION BASINS MAY NOT BE REMOVED OR MADE INOPERATIVE WITHOUT PRIOR APPROVAL OF THE COUNTY ENGINEER.
3. UTILITY TRENCHES THAT ARE CUT THROUGH BASIN DIKES OR BASIN INLET DIKES SHALL BE PLUGGED WITH SANDBAGS FROM TOP OF PIPE TO TOP OF DIKE.
4. ALL UTILITY TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS WITH A DOUBLE ROW OF GRAVEL BAGS WITH A TOP ELEVATION, TWO GRAVEL BAGS BELOW THE GRADED SURFACE OF THE STREET. GRAVEL BAGS ARE TO BE LAPPED COURSES. THE INTERVALS PRESCRIBED BETWEEN GRAVEL BAG BLOCKING SHALL DEPEND ON THE SLOPE OF THE GROUND SURFACE, BUT NOT EXCEED THE FOLLOWING:

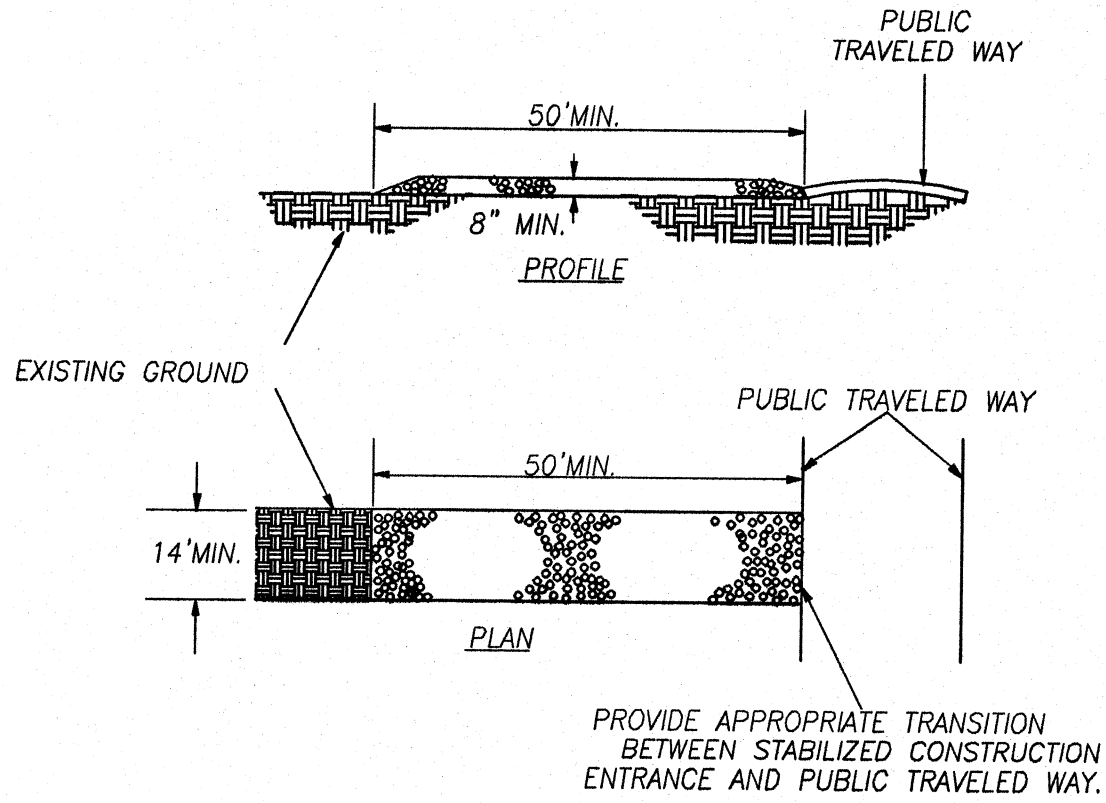
GRADE OF THE STREET	INTERVAL
LESS THAN 2%	AS REQUIRED
2% TO 4%	100 FEET
4% TO 10%	50 FEET
OVER 10%	25 FEET

5. AFTER UTILITY TRENCHES ARE BACKFILLED AND COMPACTED, THE SURFACES OVER SUCH TRENCHES SHALL BE MOUNDED SLIGHTLY TO PREVENT CHANNELING OF WATER IN THE TRENCH AREA. CARE SHOULD BE EXERCISED TO PROVIDE FOR CROSS FLOW AT FREQUENT INTERVALS WHERE TRENCHES ARE NOT ON THE CENTERLINE OF A CROWNED STREET.
6. ALL BUILDING PADS SHOULD BE SLOPED TOWARDS THE DRIVEWAYS AND VELOCITY CHECK DAMS PROVIDED AT THE BASE OF ALL DRIVEWAYS DRAINING INTO THE STREET.
7. PROVIDE VELOCITY CHECK DAMS IN ALL UNPAVED GRADED CHANNELS AT THE INTERVALS BELOW:

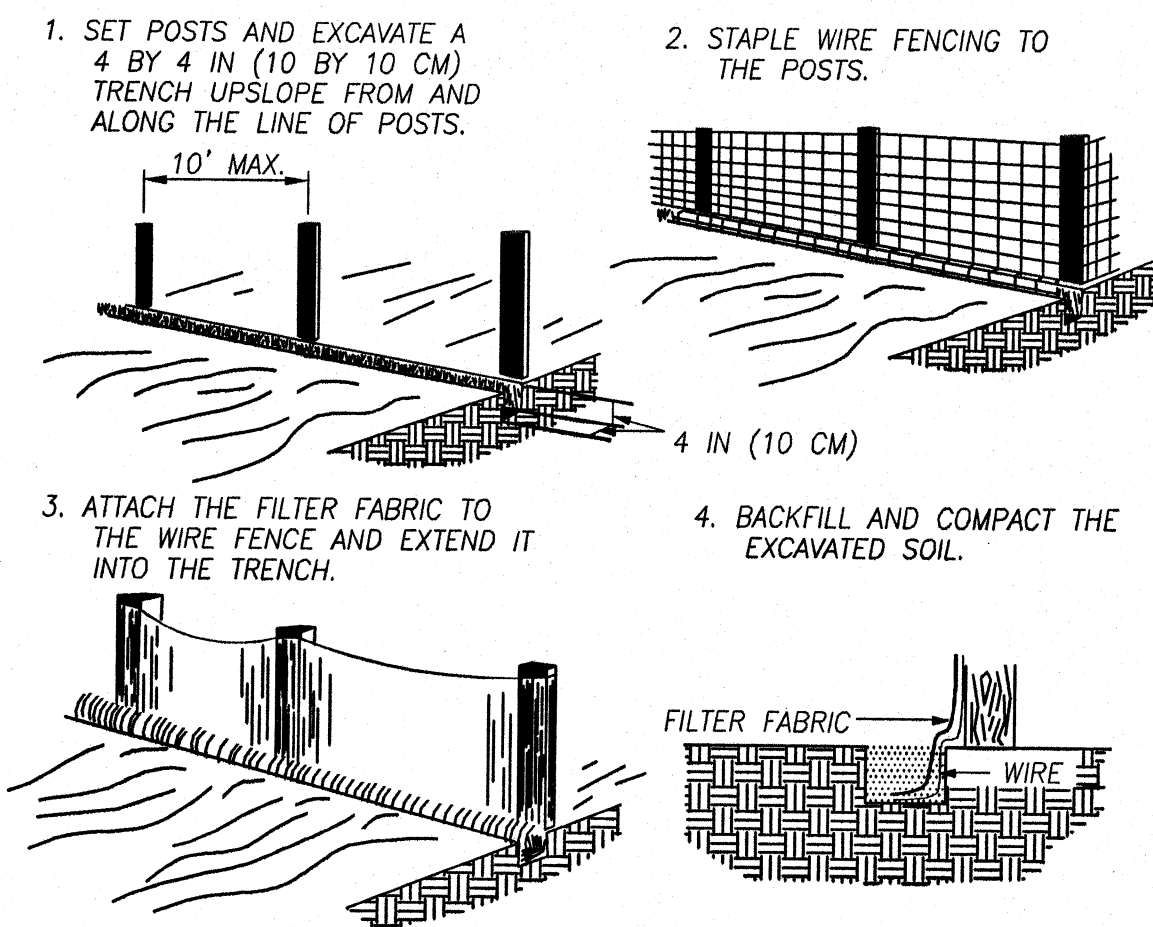
INTERVALS BETWEEN GRADE OF CHANNEL/CHECK DAMS	
LESS THAN 3%	100 FEET
3% TO 6%	50 FEET
OVER 6%	25 FEET
8. PROVIDE VELOCITY CHECK DAMS IN ALL PAVED STREET AREAS ACCORDING TO INTERVALS INDICATED BELOW. VELOCITY CHECK DAMS MAY BE CONSTRUCTED OF GRAVEL BAGS, TIMBER OR OTHER EROSION RESISTANT MATERIALS APPROVED BY THE COUNTY ENGINEER, AND SHALL EXTEND COMPLETELY ACROSS THE STREET OR CHANNEL AT RIGHT ANGLES TO THE CENTERLINE. VELOCITY CHECK DAMS MAY ALSO SERVE AS SEDIMENT TRAPS.

GRADE OF THE STREET	INTERVAL	NO. OF BAGS HIGH
LESS THAN 2%	AS REQUIRED, 200' MAX	1
2% TO 4%	100 FEET	1
4% TO 6%	50 FEET	1
6% TO 10%	50 FEET	2
MORE THAN 10%	25 FEET	2

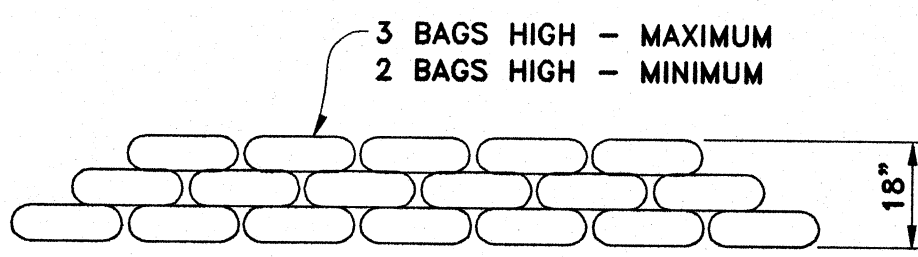
9. PROVIDE A GRAVEL BAG SILT BASIN OR TRAP BY EVERY STORM DRAIN INLET TO PREVENT SEDIMENT FROM ENTERING DRAIN SYSTEM.
10. GRAVEL BAGS AND FILL MATERIAL SHALL BE STOCKPILED AT INTERVALS, READY FOR USE WHEN REQUIRED.
11. ALL EROSION CONTROL DEVICES WITHIN THE DEVELOPMENT SHOULD BE MAINTAINED DURING AND AFTER EVERY RUNOFF PRODUCING STORM, IF POSSIBLE, MAINTENANCE CREWS WOULD BE REQUIRED TO HAVE ACCESS TO ALL AREAS.
12. PROVIDE ROCK RIPRAP ON CURVES AND STEEP DROPS IN ALL EROSION PRONE DRAINAGE CHANNELS DOWNSTREAM FROM THE DEVELOPMENT. THIS PROTECTION WOULD REDUCE EROSION CAUSED BY THE INCREASED FLOWS THAT MAY BE ANTICIPATED FROM DENUDED SLOPES, OR FROM IMPERVIOUS SURFACES.
13. ANY PROPOSED ALTERNATE CONTROL MEASURES MUST BE APPROVED IN ADVANCE BY ALL RESPONSIBLE AGENCIES; I.E., COUNTY ENGINEER, DEPARTMENT OF SANITATION AND FLOOD CONTROL, OFFICE OF ENVIRONMENTAL MANAGEMENT, ETC.



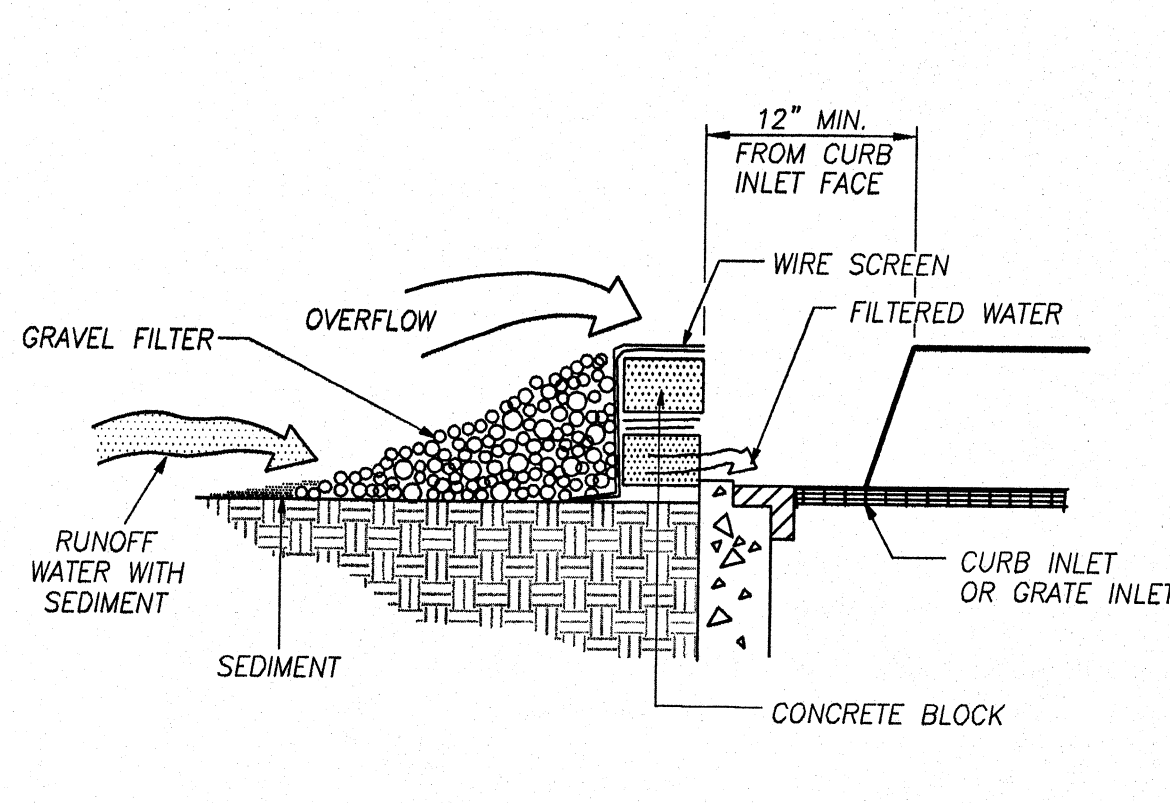
Ⓐ STABILIZED CONSTRUCTION ENTRANCE



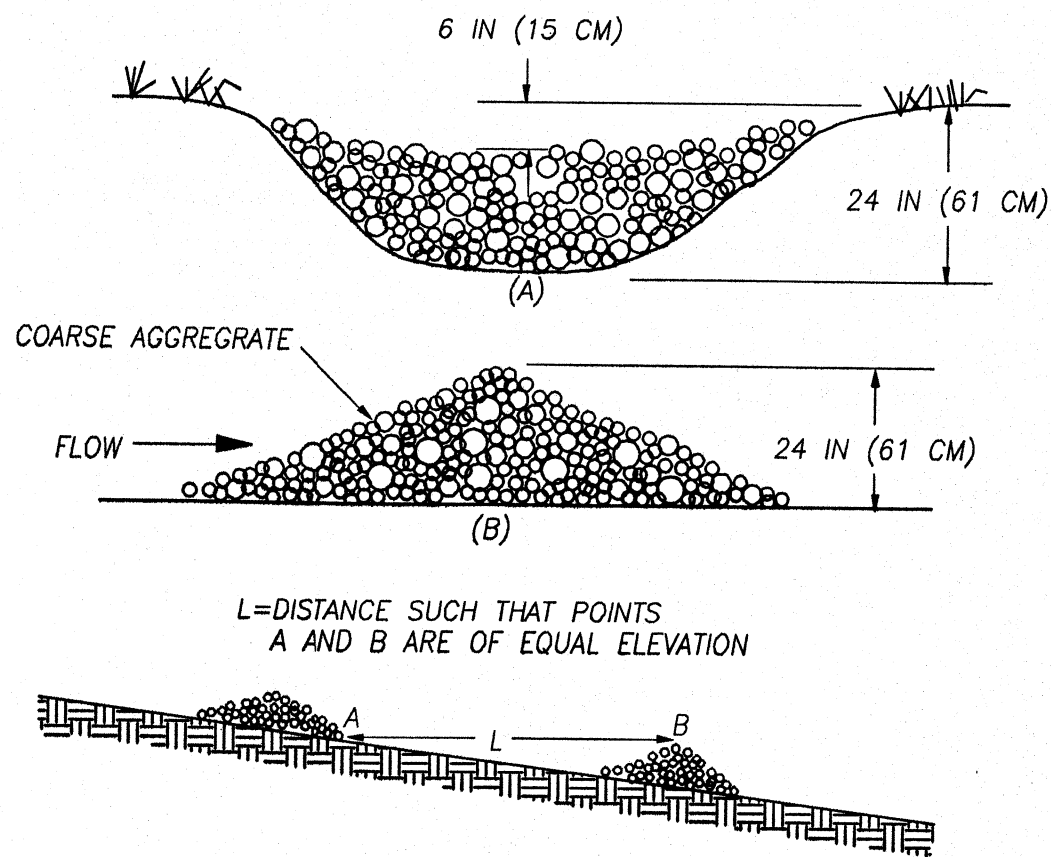
Ⓓ SILT FENCE



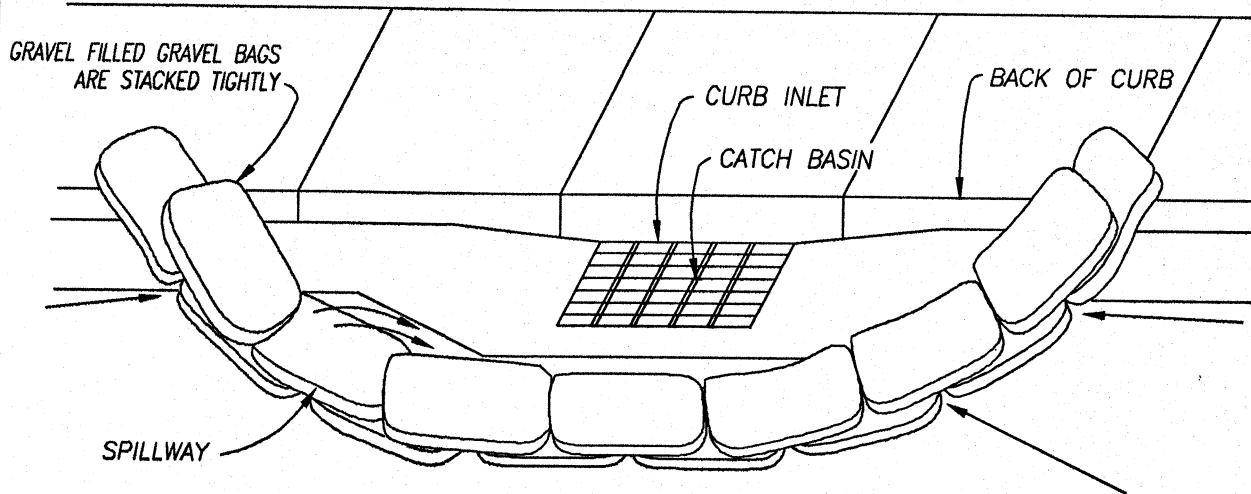
Ⓒ TEMPORARY GRAVEL BAG CHECK DAM



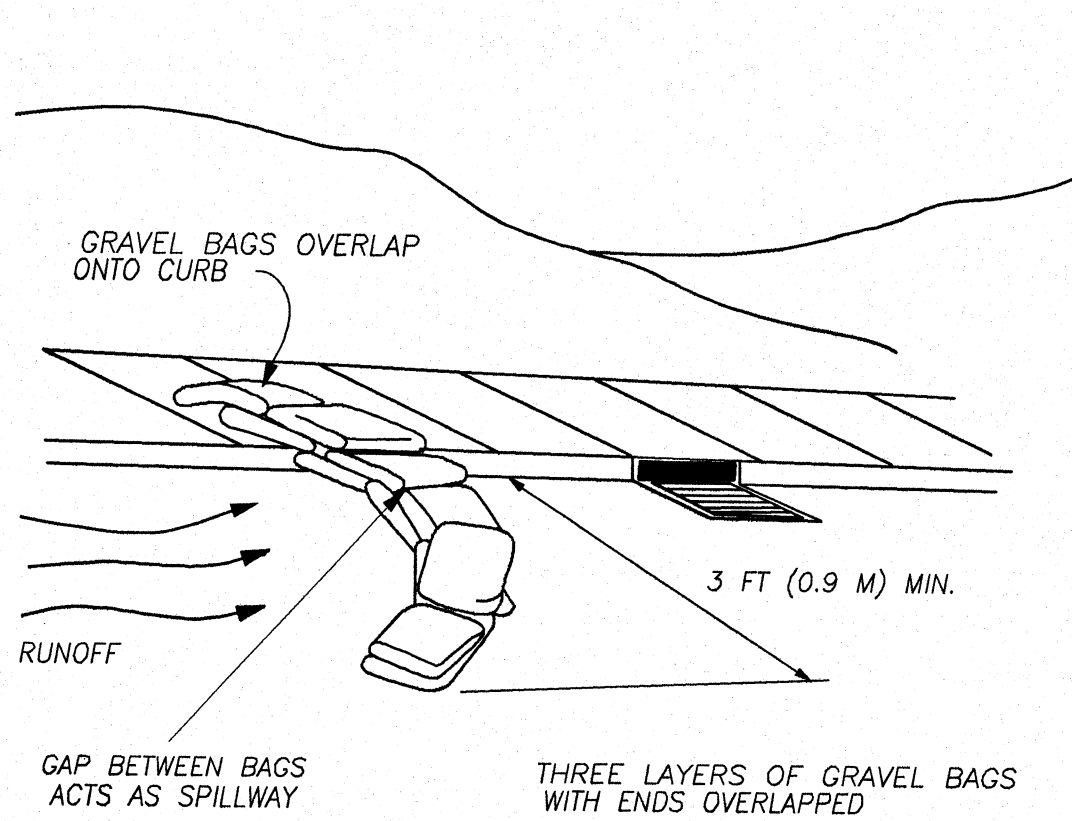
Ⓑ GRAVEL SILT BASIN



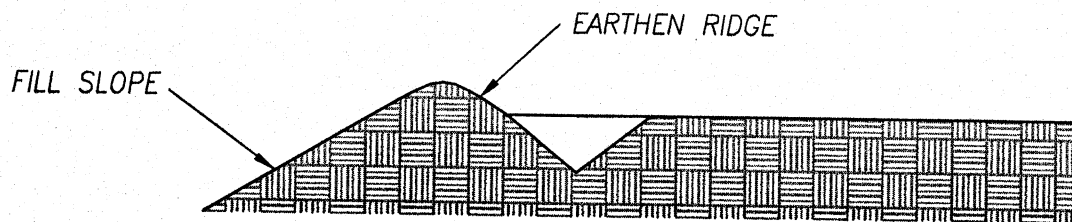
Ⓔ GRAVEL CHECK DAM



Ⓗ INLET PROTECTION



Ⓒ GRAVEL BAGS



Ⓕ UNLINED SWALE & BERM

GRAVEL BAG NOTES

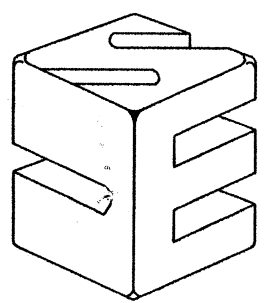
- 1.) GRAVEL BAGS SHALL BE PLACED ALONG ALL STREET AND DRIVEWAYS BASED UPON THE FOLLOWING FORMULA:
GRAVELBAGS SPACING (FEET)= $\frac{1.5'}{STREET\ SLOPE}$
EXAMPLE: 12.00% STREET $\frac{1.5'}{0.12} = 12.5'$ SPACING
- 2.) CONTRACTOR SHALL ASSUME RESPONSIBILITY TO PLACE ANY ADDITIONAL GRAVEL BAGS AS NECESSARY TO PREVENT SITE EROSION.

- 3.) SITE HOUSEKEEPING IS TO BE MAINTAINED ON A REGULAR BASIS SUCH AS REMOVING SILT FROM BASINS, ADJUSTING/REPLACING SAND BAGS AND ONGOING MATERIAL CLEANUP.
- 4.) STABILIZATION OF SLOPES IS REQUIRED UPON COMPLETION OF SLOPE CONSTRUCTION. (I.E., HYDROSEED PLANTING, PUNCHED STRAW, ETC.).
- 5.) CONTRACTOR SHALL HAVE THE OPTION TO UTILIZE AT HIS OR HER DESCRETION GRAVEL BAGS, STRAW BALE DIKE OR SILT FENCE PER DETAILS ON THIS SHEET.

COUNTY APPROVED CHANGES				BENCH MARK	
No.	Description	Approved by	Date	DESCRIPTION:	
				DESCRIPTION: BRASS PLATE ON TOP OF CONCRETE HEADWALL MARKED "1938 H-24-25 (H0024)"	
				LOCATION: APPROX. 300' N'LY OF LAS PALMIDAS AND APPROX. 15' W'LY OF CL OF VIA DE LA VALLE	
				RECORD FROM: SAN DIEGO COUNTY BENCHMARK	
				ELEVATION: 26.162	DATUM: M.S.L.



PRIVATE CONTRACT		
SHEET 8	COUNTY OF SAN DIEGO DEPARTMENT OF PUBLIC WORKS	8 SHEETS
GRADING PLANS FOR: PALMA DE LA REINA RETAIL AND RESIDENTIAL USE		
CALIFORNIA COORDINATE INDEX: 298-1701		
Approved Douglas M. Isbell COUNTY ENGINEER	Engineer of Work: Barry L. Munson R.C.E. 40980	Date Exp. 3-31-07
By:	Grading Permit No.	L-14372
Date		



SAN DIEGUITO ENGINEERING, INC

4407 MANCHESTER, SUITE 105
ENCINITAS, CA 92024
PHONE: (760) 753-5525

**CIVIL ENGINEERING • PLANNING
LAND SURVEYING**

ENGINEER'S NAME: SAN DIEGUITO ENGINEERING, INC.
PHONE NO. (760) 753-5525

FILE NO.4200.02